

## Abstract

A magnetic transducer including an electrically conductive shield (ECS) which is disposed between the substrate and first magnetic shield is described .

- 5 The ECS is preferably embedded in an insulating undercoat layer. The ECS is preferably electrically isolated from the magnetic sensor element and is externally connected to a ground available in the disk drive through the arm electronics. Two alternative ways for connecting the ECS to a ground are described. In one embodiment which is only effective with single-ended input
- 10 type arm electronics, the ECS is connected to a ground through a via to a lead pad for the read head which is connected to the ground of the arm electronics. In a second and more preferred embodiment a separate lead pad is included on the head to allow the ECS to be connected to electronic or case ground when the head is installed in the arm. The extent of the ECS should be sufficiently large to
- 15 cover the read head portion of the transducer, i.e., from the edge of the first magnetic shield to the outer edges of the read contact pads, but should preferably not cover the write head pads.